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SCE&G®
A SCANA COMPANY

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RC-02-0191

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Ladies and Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS)
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
REQUEST TO USE ALTERNATIVES TO ASME BOILER AND PRESSURE VESSEL CODE, SECTION XI (0-C-02-3202)

South Carolina Electric and Gas Company (SCE&G) hereby submits the attached five (5) requests for using alternatives to the requirements of ASME Code, Section XI regarding inservice examinations to be performed at VCSNS.

These requests will allow alternatives to the requirements of Section XI, regarding Steam Generator Nozzle Inner Radius, Class 1 and 2 Piping, Class 2 Vessel, Class 1 Vessel, and Class 1 Bolting. SCE&G has determined that the proposed alternatives will provide an acceptable level of quality and safety.

Detailed descriptions of these proposed alternatives, including bases for relief, are included as attachments to this letter. SCE&G requests timely NRC review and approval of this request so that appropriate changes to the VCSNS Inservice Inspection (ISI) Program can be completed to support implementation during refueling outage 14 (RF14), currently scheduled for October 2003.

SCE&G is submitting the attached relief requests in accordance with 10CFR50.55a(a)(3)(i) and a(a)(3)(ii).

Should you have any questions, please call Mr. Mel Browne at (803) 345-4141.

Very truly yours,

Stephen A. Byrne for SAB

JT/SAB/dr
Attachments

A047

c: N. O. Lorick
N. S. Carns
T. G. Eppink (w/o Attachment)
R. J. White
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RTS (0-C-02-3202)
File (810.19-2)
DMS (RC-02-0191)

South Carolina Electric & Gas Co. (SCE&G)
Virgil C. Summer Nuclear Station (VCSNS)
Relief Request

RR-II-08

Subject:

This relief request provides alternate requirements for the inspection of the Steam Generator Nozzle Inner Radius required by Subsection IWB of ASME Code, Section XI, 1989 Edition (henceforth Section XI).

Components:

Steam Generator primary nozzle inner radius section.

Isometric Drawing	Component Identification	Code Category	Code Item Number
CGE-1-3100	1-3100-12IR-A	B-D	B3.140
CGE-1-3100	1-3100-12IR-B	B-D	B3.140
CGE-1-3100	1-3100-12IR-C	B-D	B3.140
CGE-1-3100	1-3100-13IR-A	B-D	B3.140
CGE-1-3100	1-3100-13IR-B	B-D	B3.140
CGE-1-3100	1-3100-13IR-C	B-D	B3.140

Code Requirement:

Table IWB-2500-1 for Examination Category B-D requires the primary nozzle inner radius section, Code Item Number B3.140, to be ultrasonically inspected each Interval.

Relief Request:

Relief is requested from the IWB-Table-2500-1, Code Category B-D Item Number B 3.140 ultrasonic examination of the integrally cast nozzle inner radius section.

Alternate Test:

Perform a VT-1 examination of the nozzle inner radius section, as shown in Figure IWB-2500-7(d), each Interval. Examinations are to be performed only when the interior surfaces are made accessible for maintenance, repair or concurrent with eddy current examination.

Basis for Relief:

V. C. Summer Nuclear Station (VCSNS) is presently required to schedule component inspections in accordance with the 1989 Edition of ASME Section XI. The Steam Generator primary nozzles are manufactured as non-welded integrally cast components. Ultrasonic preservice examination of this component required the use of low angle circumferential scan parameters to provide adequate coverage. The general design of the component exterior surfaces have ultrasonic scan interference and the primary side drain require recording of geometric indications. During the operational phase of the component, considerable man-hours are required to provide access, insulation removal and restoration, surface preparation and ultrasonic examination in a high radiation area. The alternative examination will perform a primary inspection method, VT-1, to the interior inner radius surface normally accomplished during the performance of steam generator eddy current testing. The qualified visual examination of the inner radius surface along with considerable reduction in personnel radiation exposure will provide adequate flaw detection capabilities and enhanced ALARA initiatives.

Implementation Schedule:

This relief will be implemented during the current second interval for inservice inspections at VCSNS as required by ASME Code, Section XI, 1989 Edition.

South Carolina Electric & Gas Co. (SCE&G)
Virgil C. Summer Nuclear Station (VCSNS)
Relief Request

RR-II-09

Subject:

This relief request provides alternate requirements for the inspection of piping welds required by Subsection IWE of ASME Code, Section XI, 1989 Edition (henceforth Section XI).

Components:

ASME Code Class 1 & 2 piping system welds requiring ultrasonic examination.

Code Requirement:

Table IWX-2500-1 for Examination Categories B-F, B-J, C-F-1 and C-F-2 requires piping welds to be ultrasonically inspected each Interval. Each selected weld is required to be inspected essentially 100% of the required volume. ASME Code Case N-460 qualifies the ultrasonic examination when at least 91% of the required volume has been achieved.

Relief Request:

Relief is requested from achieving 91% of the required volume during performance of the ultrasonic examination when component design and geometric limitations preclude a complete exam.

Alternate Test:

To the extent practical, the weld required volume and base metal area, Figure IWB-2500-8 as an example, will be ultrasonically examined. Each weld with less than the allowed 91% coverage shall have a representative cross sectional drawing detailing the beam angles used and the extent of coverage achieved.

Basis for Relief:

V. C. Summer Nuclear Station (VCSNS) is presently required to perform component inspections in accordance with the 1989 Edition of ASME Section XI. The general design of the component surfaces may have ultrasonic scan interference caused by inherent manufacturing geometry or obstructions that preclude access to the weld area. Examples of these piping configurations are valve bodies, pipe fitting transitions, nozzle radius transitions, nozzle reinforcing pads and non bolted obstructions. Each selected weld shall be examined to the maximum extent practical to include the use of multiple angles and beam paths.

Implementation Schedule:

This relief will be implemented during the current second interval for inservice inspections at VCSNS as required by ASME Code, Section XI, 1989 Edition.

South Carolina Electric & Gas Co. (SCE&G)
Virgil C. Summer Nuclear Station (VCSNS)
Relief Request

RR-II-010

Subject:

This relief request provides the alternate requirements to Examination Categories C-A and C-B as qualified by Code Case N-460 of ASME Code, Section XI, 1989 Edition (henceforth Section XI).

Components:

ASME Code Class 2 welds in pressure vessels requiring ultrasonic examination.

Code Requirement:

Table IWC-2500-1 for Examination Categories C-A and C-B requires pressure vessel welds to be ultrasonically inspected each Interval. Each selected weld is required to be inspected essentially 100% of the required volume. ASME Code Case N-460 qualifies the ultrasonic examination when at least 91% of the required volume has been achieved.

Relief Request:

Relief is requested from achieving 91% of the required volume during performance of the ultrasonic examination when component design and geometric limitations preclude a complete exam.

Alternate Test:

To the extent practical, the weld required volume and base metal area, Figure IWC-2500-1 as an example, will be ultrasonically examined. Each weld with less than the allowed 91% coverage shall have a representative cross sectional drawing detailing the beam angles used and the extent of coverage achieved.

Basis for Relief:

V. C. Summer Nuclear Station (VCSNS) is presently required to perform component inspections in accordance with the 1989 Edition of ASME Section XI. The general design of the component surfaces may have ultrasonic scan interference caused by inherent manufacturing geometry or obstructions that preclude access to the weld area. Examples of these vessel configurations are nozzle reinforcing pad interferences, vessel head transitions, nozzle radius transitions, and non bolted obstructions. Each selected weld shall be examined to the maximum extent practical to include the use of multiple angles and beam paths.

Implementation Schedule:

This relief will be implemented during the current second interval for inservice inspections at VCSNS as required by ASME Code, Section XI, 1989 Edition.

South Carolina Electric & Gas Co. (SCE&G)
Virgil C. Summer Nuclear Station (VCSNS)
Relief Request

RR-II-011

Subject:

This relief request provides the alternate requirements to Examination Categories B-A and B-B as qualified by Code Case N-460 of ASME Code, Section XI, 1989 Edition (henceforth Section XI).

Components:

ASME Code Class 1 welds in pressure vessels requiring ultrasonic examination.

Code Requirement:

Table IWB-2500-1 for Examination Categories B-A and B-B requires pressure vessel welds to be ultrasonically inspected each Interval. Each selected weld is required to be inspected essentially 100% of the required volume. ASME Code Case N-460 qualifies the ultrasonic examination when at least 91% of the required volume has been achieved.

Relief Request:

Relief is requested from achieving 91% of the required volume during performance of the ultrasonic examination when component design and geometric limitations preclude a complete exam.

Alternate Test:

To the extent practical, the weld required volume and base metal area, Figure IWB-2500-3 as an example, will be ultrasonically examined. Each weld with less than the allowed 91% coverage shall have a representative cross sectional drawing detailing the beam angles used and the extent of coverage achieved.

Basis for Relief:

V. C. Summer Nuclear Station (VCSNS) is presently required to perform component inspections in accordance with the 1989 Edition of ASME Section XI. The general design of the component surfaces may have ultrasonic scan interference caused by inherent manufacturing geometry or obstructions which preclude access to the weld area. Examples of these vessel configurations are nozzle reinforcing boss interferences, vessel head transitions, nozzle radius transitions, vessel head penetrations and non bolted obstructions. Each selected weld shall be examined to the maximum extent practical to include the use of multiple angles and beam paths.

Implementation Schedule:

This relief will be implemented during the current second interval for inservice inspections at VCSNS as required by ASME Code, Section XI, 1989 Edition.

South Carolina Electric & Gas Co. (SCE&G)
Virgil C. Summer Nuclear Station (VCSNS)
Relief Request

RR-II-012

Subject:

This relief request provides alternate requirements for bolting inspections as required by Table IWB-2500-1 of ASME Code, Section XI, 1989 Edition (henceforth Section XI).

Components:

ASME Code Class 1 Bolting requiring examination.

Code Requirement:

Table IWB-2500-1 for Examination Category B-G-1 requires ASME Class 1 bolting to be ultrasonic, surface and visually inspected each Interval.

Relief Request:

Relief is requested from performance of the surface examination on Class 1 studs and nuts. Relief is requested from the full volume ultrasonic inspection, as shown in Figure IWB-2500-12, when examination is conducted from the end of the stud, to the volume consistent with that shown in ASME Code Case N-307-2.

Alternate Test:

Perform a VT-1 examination of the component areas of Category B-G-1 studs and nuts, as shown in Figure IWB-2500-12, each Interval. Visual inspections are to be performed in conjunction with the qualified Appendix VIII volumetric examinations of the bolting as required by Table IWB-2500-1, Category B-G-1. The ultrasonic examination volume of Class 1 bolting is to be in accordance with Figure 1, Code Case N-307-2.

Basis for Relief:

V. C. Summer Nuclear Station (VCSNS) is presently required to perform component inspections in accordance with the 1989 Edition of ASME Section XI. The performance of a direct visual examination of the Class 1 bolting material is capable of detecting flaws indicative of service induced cracks, thread failure, corrosion wastage, damaged or sheared thread sections and deformation which may impair assembly. This inspection will be performed in conjunction with the enhanced ultrasonic examination of the required bolting in accordance with ASME Section XI, Appendix VIII and the Performance Demonstration Initiative (PDI) criteria. The combination of these examinations will provide material integrity equal to that of the 1989 Code.

Implementation Schedule:

This relief will be implemented during the current second interval for inservice inspections at VCSNS as required by ASME Code, Section XI, 1989 Edition.